Docket No.: MSFT-3957/160078.02

App No.: Not Yet Assigned Filed: Herewith
Title: SYSTEM AND METHOD FOR SEGMENTED EVALUATION OF DATABASE
QUERIES
Inventors: Cesar A. Galindo-Legaria, et al.
Attorney: Peter M. Ullman Phone: (215) 568-3100
Sheet 1 of 9 **8**8 196 Speakers 197 180 Monitor 191 COMPUTER REMOTE Printer 000000 Local Area Network Wide Area Network 185 170 Network Interface **APPLICATION PROGRAMS** REMOTE Modem Keyboard 162 Interface 195 160 Peripheral **User Input** Interface Output Mouse 161 Computer 100 150 190 Non-Volatile Interface Removable 152 Video Interface PROGRAM DATA Memory System Bus 121 OTHER PROGRAM MODS. 146 120 Memory Interface 140 Non-Removable <del>1</del> [8 Processing Non-Volatile Onit Unit 000000 APPLICATION PROGRAMS 130 0 Application Programs 135 133 Modules 136 137 System Memory Other Program Operating Program System OPERATING BIOS Data 132 131 SYSTEM (ROM) (RAM)

Docket No.: MSFT-3957/160078.02

App No.: Not Yet Assigned Filed: Herewith

Title: SYSTEM AND METHOD FOR SEGMENTED EVALUATION OF DATABASE QUERIES

Inventors: Cesar A. Galindo-Legaria, et al. Attorney: Peter M. Ullman

Sheet 2 of 9

Phone: (215) 568-3100

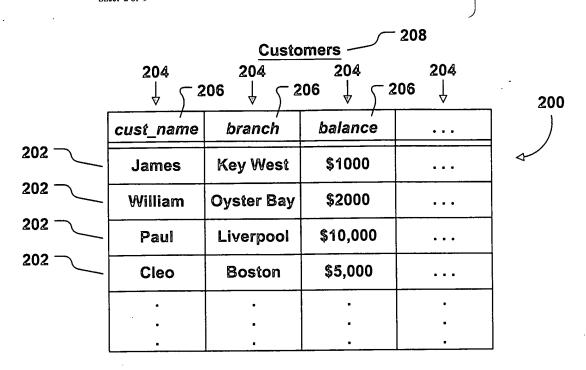


FIG. 2

<u>E</u>	mployees		<b>200a</b>	Depar	tments	200
emp_name	dep't	salary		dep't	building	7.
Mike	DMBS	1000	×	DBMS	50	7
Janice	Legal	5000		Legal	114	1
Laura	DBMS	2000			<u></u>	لـ

		Employees. emp_name	Employees. dep't	Employees. salary	Departments. dep't	Departments. building
$\rightarrow$	1	Mike	DMBS	1000	DBMS	50
	2	Mike	DMBS	1000	Legal	114
	3	Janice	Legal	5000	DBMS	50
	4	Janice	Legal	5000	Legal	114
	5	Laura	DBMS	2000	DBMS	50
	6	Laura	DBMS	2000	Legal	114

FIG. 3

Docket No.: MSFT-3957/160078.02
App No.: Not Yet Assigned Filed: Herewith
Title: SYSTEM AND METHOD FOR SEGMENTED EVALUATION OF DATABASE

QUERIES

Inventors: Cesar A. Galindo-Legaria, et al. Attorney: Peter M. Ullman Sheet 3 of 9

Phone: (215) 568-3100

<u>Employees</u>				
emp_name	dep't	salary		
Mike	DMBS	1000		
Janice	Legal	5000		
Laura	DBMS	2000		

200a	
	Γ
✓	L
$\triangleright$	
Emplpoyees.dep't = Departments.dep't	
Departments.dep t	_

Depar	200b	
dep't	building	
DBMS	50	*
Legal	114	

200d	
(	
\.	
•	
*****	

4 5

Employees. emp_name		Employees. salary	Departments. dep't	Departments. building
Mike	DMBS	1000	DBMS	50
Janice	Legal	5000	Legal	114
Laura	DBMS	2000	DBMS	50

FIG. 4

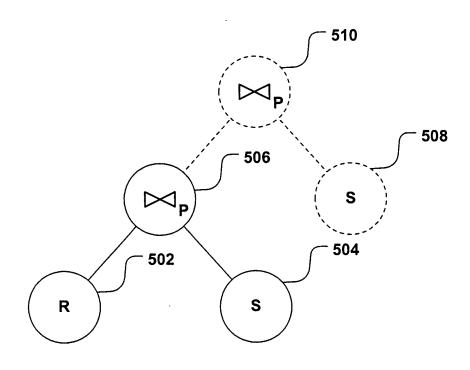


FIG. 5

Docket No.: MSFT-3957/160078.02

App No.: Not Yet Assigned Filed: Herewith
Title: SYSTEM AND METHOD FOR SEGMENTED EVALUATION OF DATABASE

QUERIES

Inventors: Cesar A. Galindo-Legaria, et al.

Attorney: Peter M. Ullman

Sheet 4 of 9

Phone: (215) 568-3100

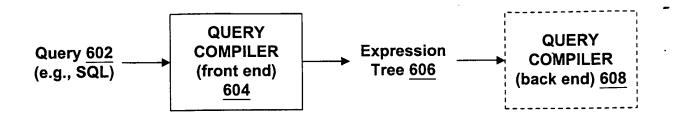


FIG. 6

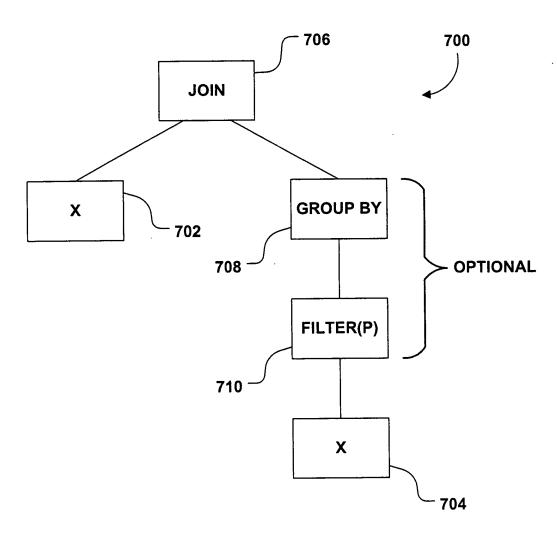


FIG. 7

Docket No.: MSFT-3957/160078.02

App No.: Not Yet Assigned Filed: Herewith

Title: SYSTEM AND METHOD FOR SEGMENTED EVALUATION OF DATABASE
QUERIES
Inventors: Cesar A. Galindo-Legaria, et al.

Attorney: Peter M. Ullman Phone: (215) 568-3100

Sheet 5 of 9

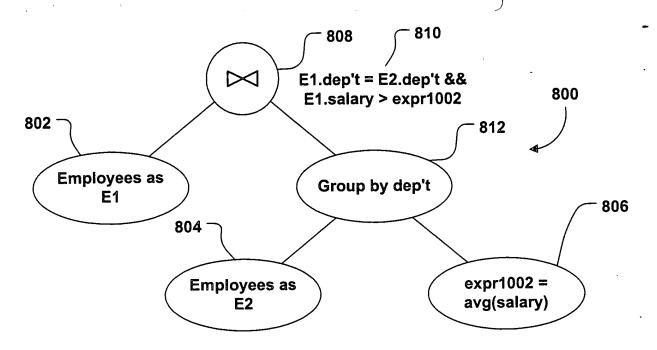
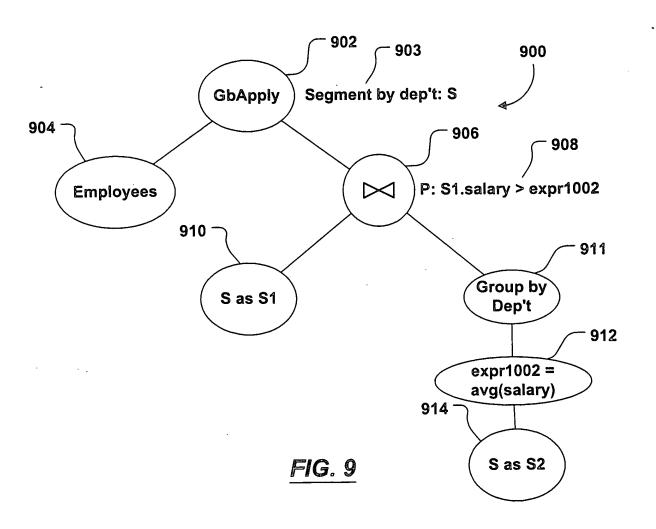


FIG. 8



Docket No.: MSFT-3957/160078.02

App No.: Not Yet Assigned

Filed: Herewith Title: SYSTEM AND METHOD FOR SEGMENTED EVALUATION OF DATABASE

QUERIES

Inventors: Cesar A. Galindo-Legaria, et al.

Attorney: Peter M. Ullman

Sheet 6 of 9

Phone: (215) 568-3100

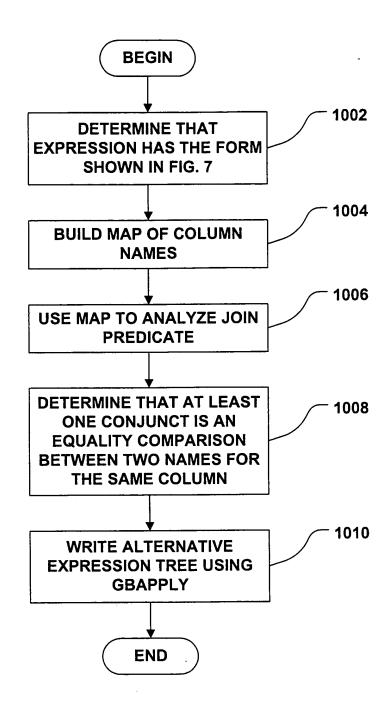


FIG. 10

Docket No.: MSFT-3957/160078.02

App No.: Not Yet Assigned Filed: Herewith

Title: SYSTEM AND METHOD FOR SEGMENTED EVALUATION OF DATABASE QUERIES Inventors: Cesar A. Galindo-Legaria, et al. Attorney: Peter M. Ullman Phone: (215) 568-3100 Sheet 7 of 9 **BEGIN** 1102 **SPOOL A SEGMENT** 1104 APPLY EXPRESSION OR **COMPUTATION TO SPOOLED** YES **SEGMENT** 1106 ANOTHER SEGMENT NO END FIG. 11 (Invoke) 1208 **SegApply** 1210 1212 Join Groupby Optional Filter 1214 1206

FIG. 12

Spool

1204

SegSpool

Table

1202

App No.: Not Yet Assigned Filed: Herewith Title: SYSTEM AND METHOD FOR SEGMENTED EVALUATION OF DATABASE Inventors: Cesar A. Galindo-Legaria, et al. Attorney: Peter M. Ullman Sheet 8 of 9 Phone: (215) 568-3100 BEGIN 1242 **SORT AND SEGMENT TABLE USING FIRST SET OF COLUMNS** 1244 **IDENTIFY SEGMENT BOUNDARIES** 1246 **SORT EACH SEGMENT BASED ON SECOND SET OF COLUMNS END** FIG. 12A **BEGIN** 1252 **SORT TABLE** 1254 **SEGMENT TABLE BASED ON COLUMNS** 1256 **READ MIN (OR MAX) VALUE** FROM APPROPRIATE **COLUMN IN FIRST ROW OF EACH SEGMENT END** 

Docket No.: MSFT-3957/160078.02

QUERIES

FIG. 12B

Docket No.: MSFT-3957/160078.02
App No.: Not Yet Assigned Filed: Herewith
Title: SYSTEM AND METHOD FOR SEGMENTED EVALUATION OF DATABASE
QUERIES
Inventors: Cesar A. Galindo-Legaria, et al.
Attorney: Peter M. Ullman Phone: (215) 568-3100
Sheet 9 of 9

